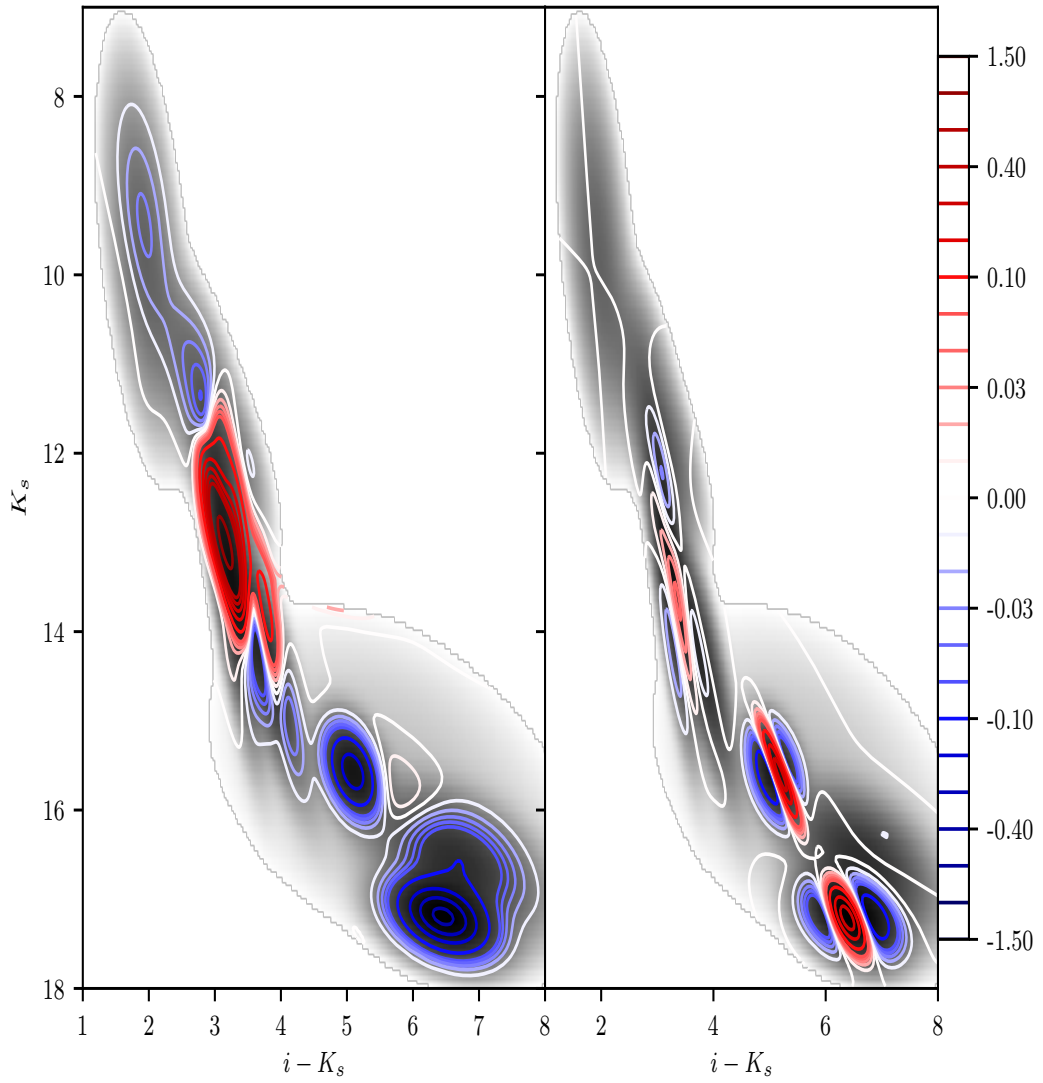
Ignorability vs Naivety



- RMSRD density
  - Naivety: 0.78 ± 0.38
  - Ignorability: 0.21 ± 0.4
- MAR parameters
  - Naivety: 1.5 ± 3.2
  - Ignorability: 0.42 ± 2.5

Colour index $i - K_s$

Reasons:

1. Sarro et al. 2014:
   - Higher exhaustivity
   - Lower contamination
   - Conciseness
2. Bessel et al. 1998, T_{eff} <=> M dwarfs
3. Allard et al. 2014, BT- Settl model

Colour index $i - K_s$

Table 2: Representation spaces evaluated in this work.

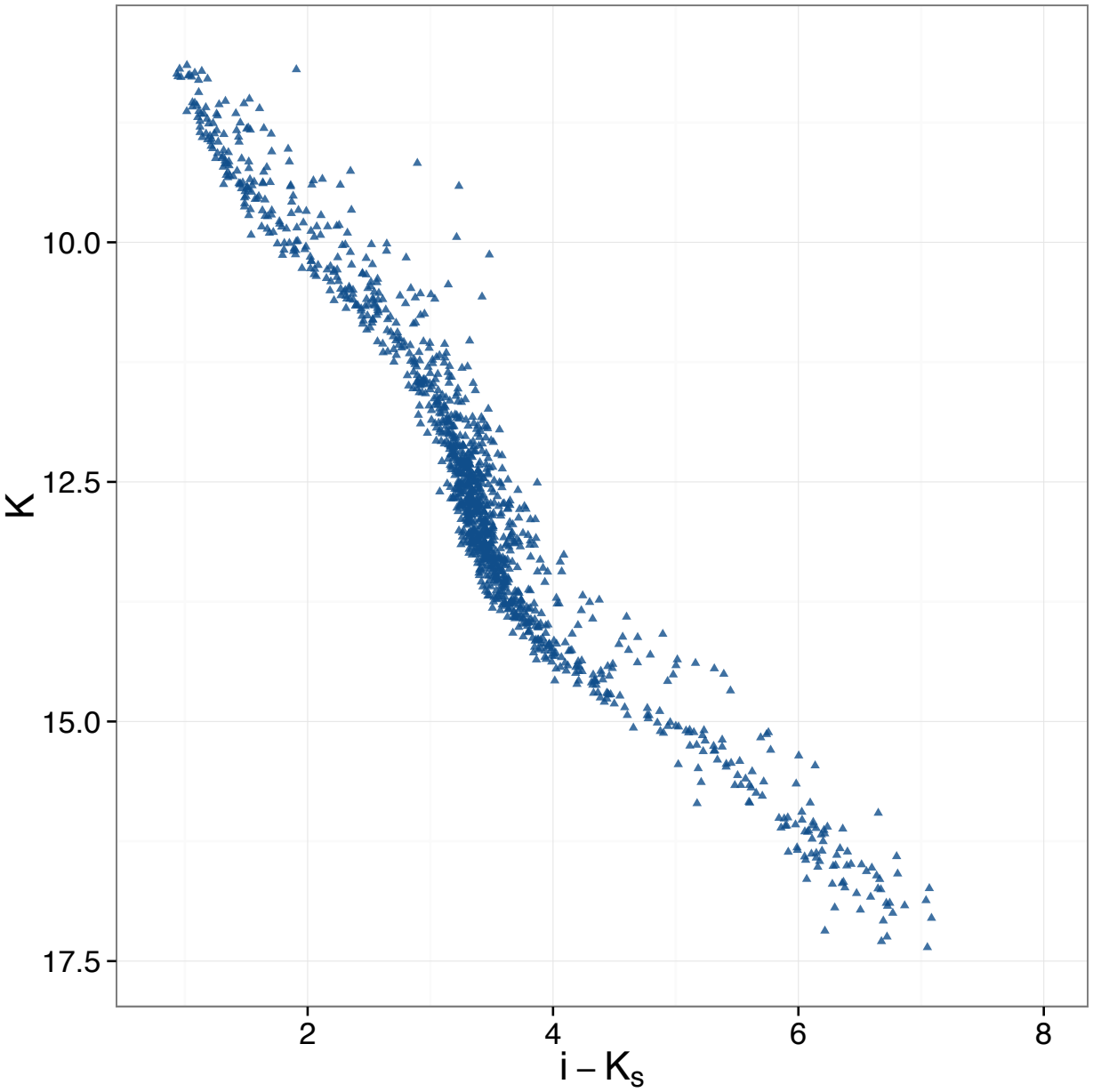
Experiment	Representation space
Apparent Magnitudes (AM)	μ_α μ_δ, r, i, J, H, K, Y, Z
Colour indices 1 (CI-1)	μ_α μ_δ, (r-i), (i-Z), (Z-Y), (Y-J), (J-H), (H-K)
Colour indices 2 (CI-2)	μ_α μ_δ, (i-J), (i-K), (Y-J), (Z-J), (r-H), (r-K)
r + CI-2	μ_α μ_δ, r, (i-J), (i-K), (Y-J), (Z-J), (r-H), (r-K)
i + CI-2	μ_α μ_δ, i, (i-J), (i-K), (Y-J), (Z-J), (r-H), (r-K)
K + CI-2	μ_α μ_δ, K, (i-J), (i-K), (Y-J), (Z-J), (r-H), (r-K)
RF-1	μ_α μ_δ, r, J, H, K, (i-J), (r-K)
RF-2	μ_α μ_δ, J, H, K, (i-K), (r-K), (Y-J)
RF-3	μ_α μ_δ, J, H, K, Y, (i-Z), (r-Y), (r-i)

Colour index $i - K_s$

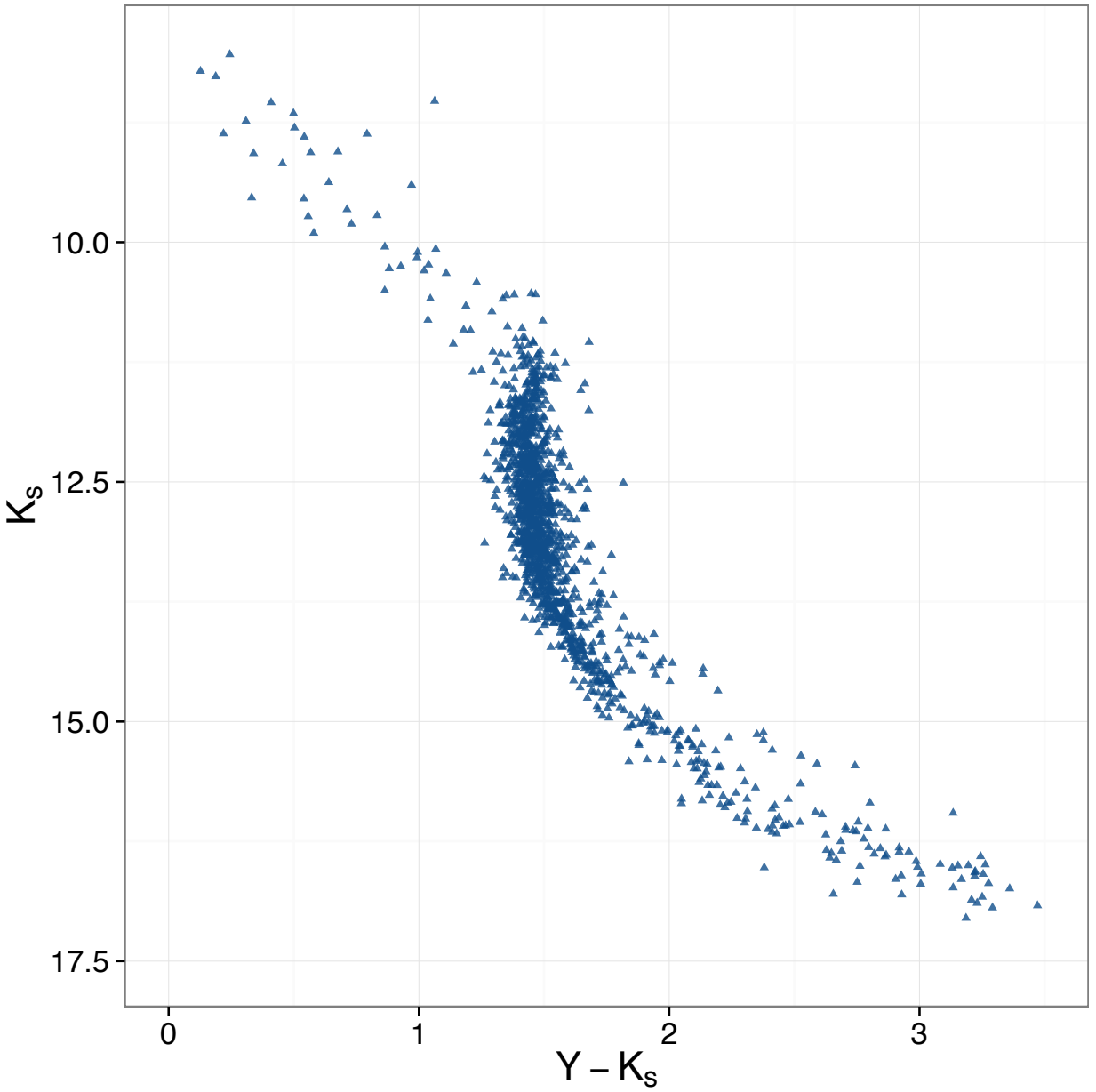
Table 3: Mean decrease in accuracy and node impurity of random forests trained with the heuristic set (columns 2 and 3) or the complete set (columns 5 and 6) of proper motions, magnitudes, and colour indices.

Variable	Heuristic set: Mean decrease in classification accuracy	node impurity	Variable	Full set: Mean decrease in classification accuracy	node impurity
μ_δ	0.0021	530.6	μ_δ	0.0016	369.6
μ_α	0.0015	199.4	μ_α	0.0010	130.1
r-K	0.0014	156.0	K	0.0013	114.8
K	0.0024	127.1	J	0.0016	98.0
i-K	0.0008	102.0	H	0.0011	85.7
H	0.0012	80.1	r-Z	0.0008	82.0
Y-J	0.0006	77.9	Y	0.0014	70.6
J	0.0017	77.3	r-Y	0.0007	60.2
r-H	0.0005	48.7	r-H	0.0006	57.5
Y	0.0009	41.8	r-J	0.0006	55.4
Z-J	0.0002	27.3	Z	0.0011	47.0
Z	0.0007	21.6	i-Y	0.0004	44.5
i	0.0009	18.8	r-i	0.0004	43.1
r	0.0011	17.5	r-K	0.0004	42.9
i-J	0.0013	16.0	i-Z	0.0004	36.5

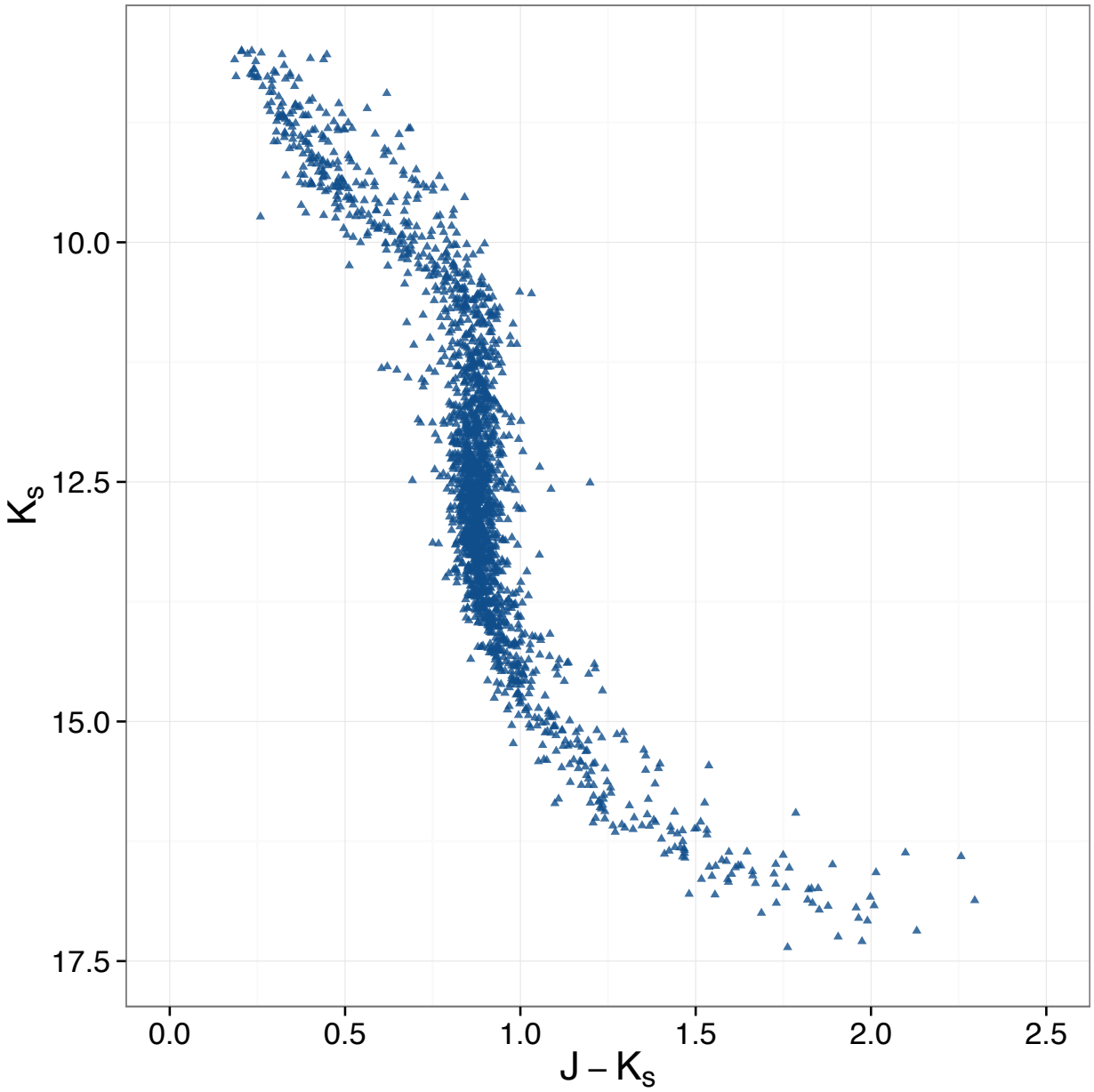
Colour index $i - K_s$



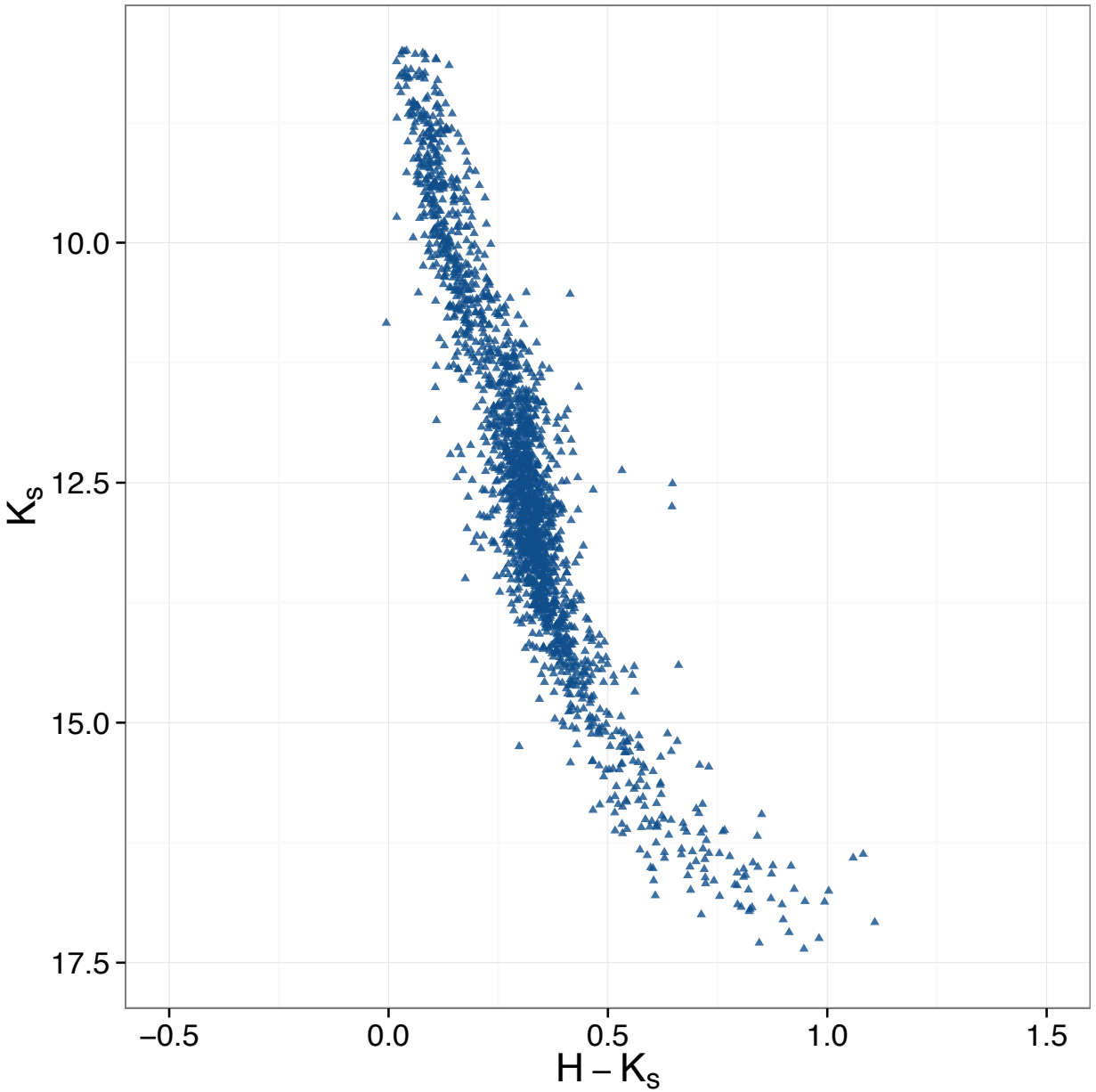
Colour index $i - K_s$



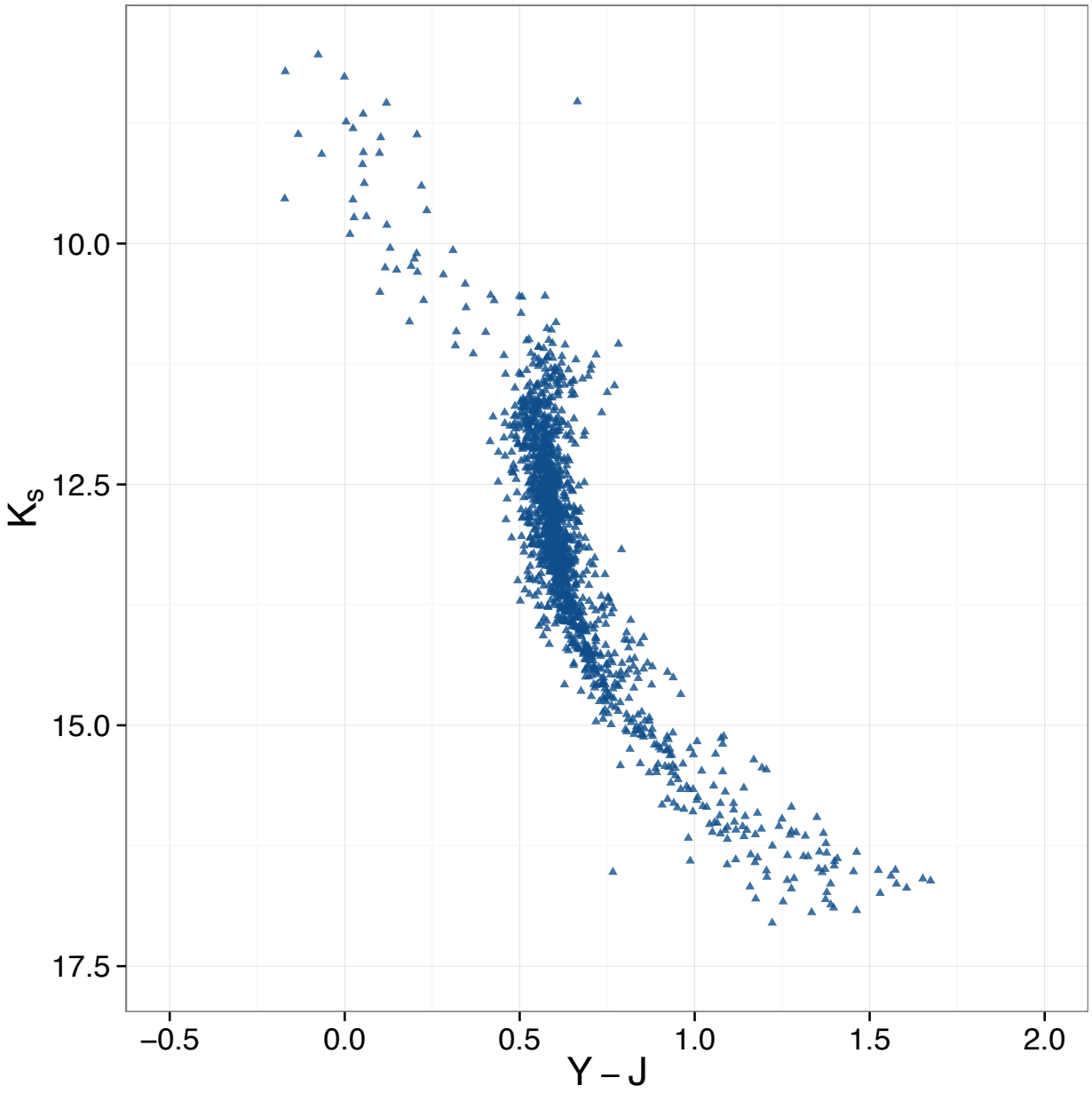
Colour index $i - K_s$



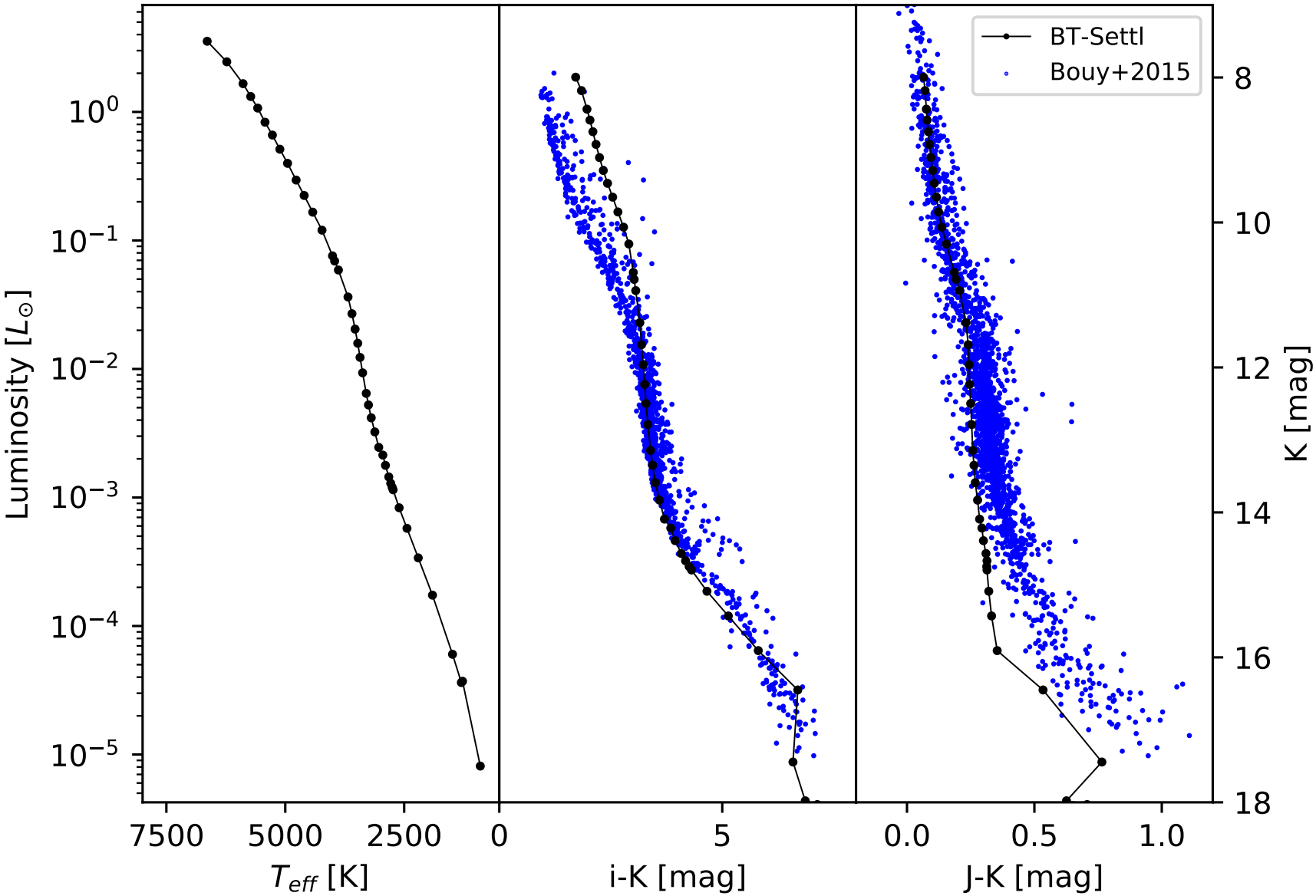
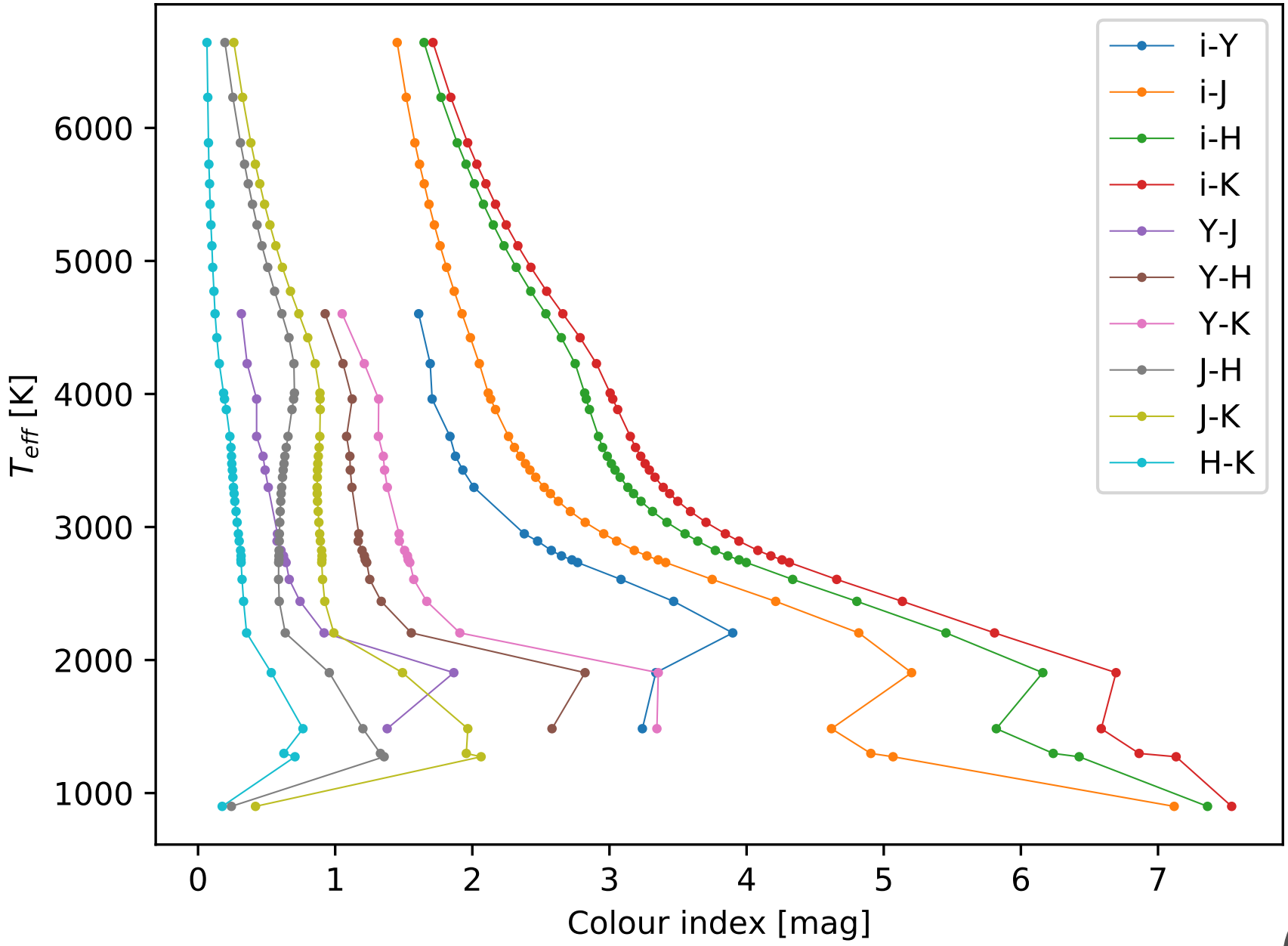
Colour index $i - K_s$



Colour index $i - K_s$



Colour index $i - K_s$



Colour index $i - K_s$